



## WATER RESOURCES RESEARCH GRANT PROPOSAL

**Project ID:** 2006AK50B

**Title:** Watershed Response to Forest Fires in Cold Regions: Channel Development and Suspended Load Variation in Streams in Interior Alaska

**Project Type:** Research

**Start Date:** 03/01/2006

**End Date:** 02/28/2008

**Congressional District:** AK

**Focus Categories:** Hydrology, Surface Water

**Keywords:** suspended load, soil erosion, channel formation, mapping, discontinuous permafrost

**Principal Investigator:** Toniolo, Horacio

**Federal Funds:** \$7,000

**Non-Federal Matching Funds:** \$3,325

**Abstract:** The past summers in Alaska were characterized by enormous and devastating boreal forest fires. For instance, more than 2 million hectares were affected by fires in the summer of 2004, and 1.55 million hectares during the summer of 2005. The rapid effects of fires on suspended load in streams, and channel development in zones affected by fires or the fire-suppression activities are not well understood or quantified in areas underlain by discontinuous permafrost. The objectives of the proposed research are (1) to provide baseline data on rapid changes in the suspended load of streams in severely and partially burned areas located in watersheds underlain by discontinuous permafrost in Interior Alaska, and (2) to provide quantitative data on changes (soil erosion) in areas affected by firefighters. A pristine watershed unaffected by fires will be used as a control to compare suspended load in this project. Extensive field data collection and surveys and laboratory analysis will be conducted to accomplish these objectives.

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